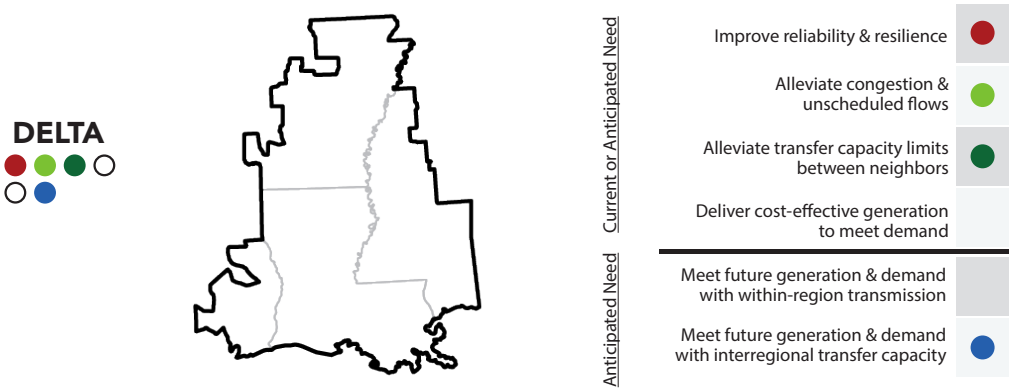
GRID DEPLOYMENT OFFICE

FACT SHEET

2023 NATIONAL TRANSMISSION NEEDS STUDY

DELTA REGION

The U.S. Department of Energy's Grid Deployment Office (GDO) released the National Transmission Needs Study ("Needs Study") in October 2023. The Needs Study is the Department's **triennial state of the grid** report. The Needs Study identifies transmission needs and provides information about current and anticipated future capacity constraints and congestion on the Nation's electric transmission grid. In this fact sheet, we highlight the transmission needs of the Delta region. The Needs Study provides further detail on the benefits of transmission that could be realized throughout the country.



FINDINGS OF TRANSMISSION NEED IN THE DELTA REGION

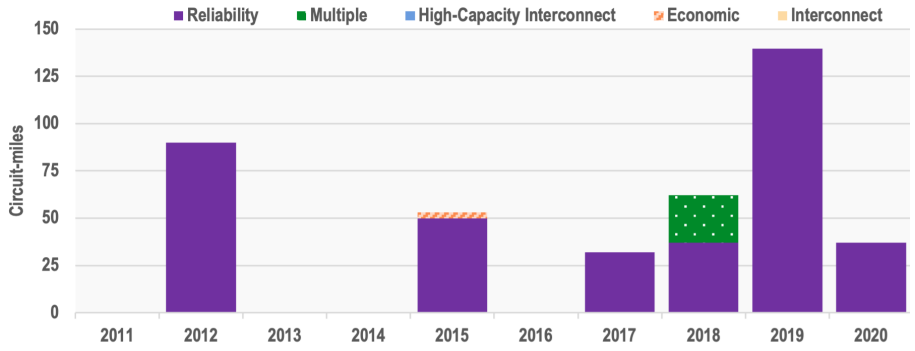
- **Improve reliability and resilience.** Generation retirements over the next few years are anticipated to result in capacity shortfalls without additional generation or import transfer capability additions. Additional regional or interregional transmission to access diverse generation resources would help ensure resource adequacy. Additional interregional transfer capacity would also bolster system resilience and mitigate load shedding during extreme weather events, as was experienced during winter storms in both 2018 and 2021. The Delta region is also susceptible to increasingly severe hurricane storm surges, which can damage transmission facilities and result in power outages.
- **Alleviate congestion and unscheduled flows.** Congestion costs in the combined Midwest and Delta regions have increased in recent years due to insufficient transmission to support wind generation and due to generation and transmission outages, including the recent impact of Hurricane Laura in the Delta region.
- **Alleviate transfer capacity limits between the Delta region and its neighbors.** High congestion value of interregional transmission from 2012–2020 exists between the Delta region and Texas, with an average marginal value of transmission equal to $16/MWh. A high congestion value indicates that additional transmission between the regions would reduce system congestion and constraints.
- **Meet future generation and demand with additional interregional transfer capacity.** It is anticipated that the Delta region will need between 10.8 and 23.8 GW of additional transfer capacity with the Plains region in 2035 (median of 19.7 GW, a 414% increase relative to the 2020 system) to meet moderate load growth and high clean energy growth future scenarios. Smaller additional transfer capacity between the Delta and Southeast region (median value of 5.1 GW) may also be required.

HELPFUL LINKS

- **Read the full study at www.energy.gov/gdo/national-transmission-needs-study**
- **Contact GDO with additional questions: transmission@hq.doe.gov**

FINDINGS AT A GLANCE

Circuit-miles of new or rebuilt transmission lines (≥100kV) energized between 2011–2020 by project driver.

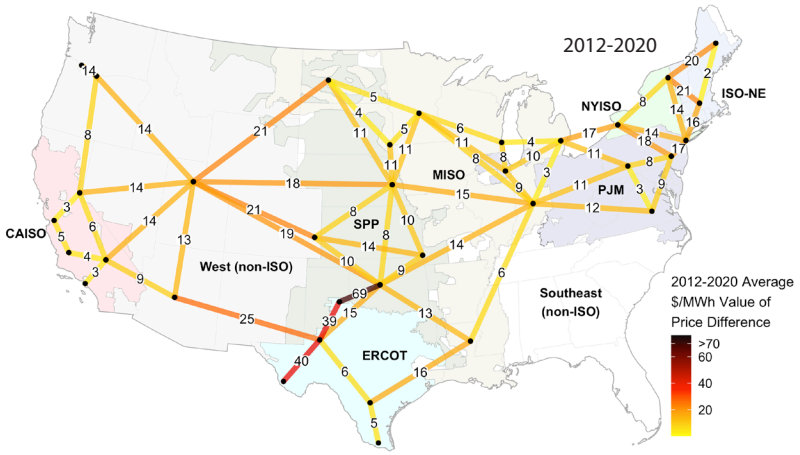


Transmission projects energized over the last decade in the Delta region were predominantly installed to **address reliability concerns**.

Wholesale market price differentials demonstrate a **high value of new interregional transmission** exists **between the Delta region and Texas**.

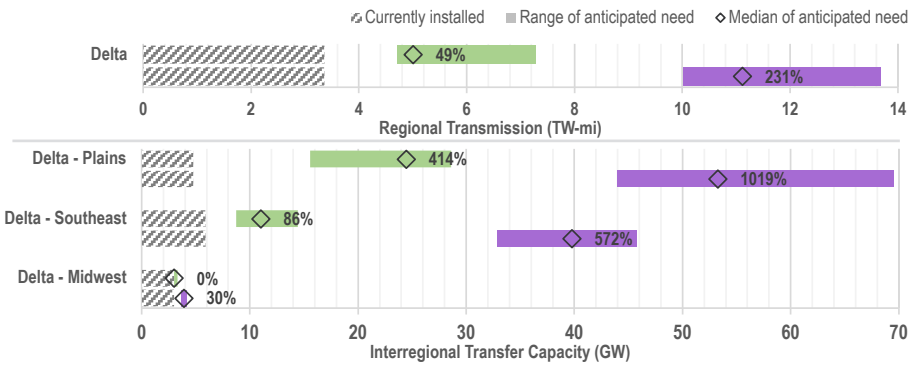
The average marginal value of transmission between the Delta region and Texas from 2012–2020 is equal to $16/MWh.

Congestion value of hypothetical transmission links between select zonal nodes within and across regions.



Note: Wholesale market price data is limited for non-RTO/ISO regions. Absence of data does not necessarily indicate that there is no need for transmission to alleviate congestion and/or unscheduled flows in non-RTO/ISO regions. Findings organized using geographic region nomenclature as described in the Needs Study.
Source: D. Millstein, et al. (2022)

Within-region transmission and interregional transfer capacity need for Delta in 2035
Range of new transmission need for future scenarios with moderate load and high clean energy growth (green, top for each region) and high load and high clean energy growth (purple, bottom). Median % growth compared to 2020 system shown.



Capacity expansion modeling results for the Moderate/High scenario group suggest an anticipated need of **1.7 TW-miles of new within-region transmission by 2035** (49% growth relative to 2020) and 19.7 **GW of new interregional transfer capacity with the Plains region by 2035** (414% growth relative to 2020).

Median 2035 capacity expansion modeling results for Moderate/High scenario group.

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